

Transportation Concept Report State Route 112 District 4





From Google Maps

Disclaimer: The information and data contained in this document are for planning purposes only and should not be relied upon for final design of any project. Any information in this Transportation Concept Report (TCR) is subject to modification as conditions change and new information is obtained. Although planning information is dynamic and continually changing, the District 4 Office of System and Regional Planning makes every effort to ensure the accuracy and timeliness of the information contained in the TCR. The information in the TCR does not constitute a standard, specification, or regulation, nor is it intended to address design policies and procedures.

California Department of Transportation

Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability

Approval Recommended:

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Approval Recommended:

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STAKEHOLDER ACKNOWLEDGEMENT

District 4 is pleased to acknowledge the stakeholders and partner agencies in development of this Transportation Concept Report (TCR). Preparation of this document was coordinated with the Alameda County Transportation Commission and the City of San Leandro.

This Final TCR will be posted on the Caltrans Corridor Mobility website at: http://www.dot.ca.gov/hq/tpp/corridormobility/

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MISSION:

Provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability.

VISION

A performance-driven, transparent and accountable organization that values its people, resources and partners, and meets new challenges through leadership, innovation and teamwork.

GOALS:

Safety and Health - Provide a safe transportation system for workers and users, and promote health through active transportation and reduced pollution in communities.

Stewardship and Efficiency - Money counts. Responsibly manage California's transportation-related assets. **Sustainability, Livability and Economy -** Make long-lasting, smart mobility decisions that improve the environment, support a vibrant economy, and build communities, not sprawl.

System Performance - Utilize leadership, collaboration and strategic partnerships to develop an integrated transportation system that provides reliable and accessible mobility for travelers.

Organizational Excellence - Be a national leader in delivering quality service through excellent employee performance, public communication, and accountability.

ABOUT THE TRANSPORTATION CONCEPT REPORT

System Planning is the long-range Transportation Planning process for the California Department of Transportation (Caltrans). The System Planning process fulfills Caltrans statutory responsibility as owner/operator of the State Highway System (SHS) (Gov. Code §65086) by identifying deficiencies and proposing improvements to the SHS. Through System Planning, Caltrans focuses on developing an integrated multimodal transportation system that meets Caltrans goals of safety and health, stewardship and efficiency, sustainability, livability and economy, system performance, and organizational excellence.

The System Planning process is primarily composed of: the District System Management Plan (DSMP), the Transportation Concept Report (TCR), the Corridor System Management Plan (CSMP), and the *DSMP Project List*. The DSMP is a long-range strategic policy and planning document that focuses on maintaining, operating, managing, and developing the transportation system. The Transportation Concept Report (TCR) is a multi-jurisdictional planning document that identifies the existing and future route conditions as well as future needs for each route on the SHS, and informs the DSMP Project List. The CSMP is a more complex document that identifies future needs within corridors experiencing or expected to experience high levels of congestion. The DSMP Project List is a long-range list of conceptual, planned, and partially programmed SHS transportation projects used to recommend projects for funding. These System Planning products are also intended as resources for stakeholders including the public, partners, regional, and local agencies.

The TCR includes detailed review of all transportation modes in the corridor and if applicable, their current and projected levels of operation. Land use, community characteristics, and environmental assessments are described to show a corridor's context and where applicable, are called out as Key Corridor Issues. The TCR also includes Caltrans suggestions for optimizing transportation modes in relation to system preservation, efficiency and expansion. The Corridor Concept, with consideration for various transportation issues, factors and needs, presents the long-term vision for a route during a 25-year planning horizon. Planned and programmed projects from the SHOPP, STIP, RTP, CTP and local plans are included in this document as well as project proposals to help inform the Caltrans Project Initiation Document (PID) and project development process.

Other policies that guided the development of this document include the Caltrans Strategic Management Plan (2015-2020), Assembly Bill (AB) 32, Senate Bill (SB) 375, SB 391, SB 743, SB 486, SB 32 the California Transportation Plan 2040 (CTP 2040), Complete Streets – Integrating the Transportation System (DD 64 R2), Caltrans Smart Mobility Framework (SMF), the Statewide Transit Strategic Plan (STSP), the California Freight Mobility Plan (CFMP) and the Caltrans Interregional Transportation Strategic Plan (ITSP). Information on these efforts can be found at:

Caltrans Strategic Management Plan: http://www.dot.ca.gov/perf

AB 32: https://www.arb.ca.gov/cc/ab32/ab32.htm
SB 375: https://www.arb.ca.gov/cc/ab32/ab32.htm

SB 391: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill id=200920100SB391

SB 743: http://www.dot.ca.gov/hq/tpp/offices/omsp/SB743.html

SB 486: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140SB486
SB 32: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32
CTP 2040: http://www.dot.ca.gov/hq/tpp/californiatransportationplan2040/2040.html

Complete Streets: http://www.dot.ca.gov/hq/tpp/offices/ocp/complete-streets.html

 SMF:
 http://www.dot.ca.gov/hq/tpp/offices/ocp/smf.html

 STSP:
 http://www.dot.ca.gov/hq/MassTrans/statewide-transit.html

 CFMP:
 http://www.dot.ca.gov/hq/tpp/offices/ogm/cfmp.html

ITSP: http://www.dot.ca.gov/hq/tpp/offices/omsp/system_planning/itsp.html

STAKEHOLDER PARTICIPATION

Stakeholder participation was sought in the development of this TCR. Outreach involved internal and external stakeholders. During the initial information resource gathering for the TCR, stakeholders were contacted for input related to their particular specializations and to help verify data accuracy. As the document was finalized, stakeholders were asked to review the document, provide comments and edits, and ensure consistency with existing plans, policies, and procedures. The document was presented to stakeholders and partner agencies as a method of information sharing and to receive additional comment. The process of working closely with stakeholders adds value and relevance to the TCR.

CORRIDOR CONCEPT

The Facility Concept for State Route (SR) 112 (Corridor) is to maintain the current four-lane conventional highway on the existing alignment. No capacity increasing projects have been proposed and the recommended strategies focus on multimodal improvements instead. This concept is consistent with the route functioning as a Principal Arterial as well as Caltrans strategic goals and will protect the State's investment in SR 112 while recognizing financial and environmental constraints.

CORRIDOR OVERVIEW

Figure 1. SR 112 Corridor Overview



ROUTE DESCRIPTION

SR 112 is located in the City of San Leandro in an urbanized area. The facility is a four-lane conventional highway functioning as a local roadway providing access to SR 61 (leading to the Oakland International Airport), I-880 and SR 185. The route is approximately 1.7 miles long serving commercial and residential land uses. It is also known as Davis Street, and provides primary access to the San Leandro BART station.

ROUTE DESIGNATIONS AND CHARACTERISTICS

Table 1 below summarizes the route designations and characteristics for SR 112.

Figure 2. SR 112 Rail Crossing at PM 1.33



Table 1. SR 112 Route Characteristics

Segment #	1	
Freeway & Expressway	No	
National Highway System	No	
Strategic Highway Network	No	
Interregional Road System	No	
Federal Functional Classification	Principal Arterial	
Goods Movement Route	No ¹	
Truck Designation	None ²	
Rural/Urban/Urbanized	Urbanized	
Regional Transportation Planning Agency	МТС	
Local Agency	Alameda County Transportation Commission (Alameda CTC)	
Terrain	Flat	

LAND USE AND COMMUNITY CHARACTERISTICS

The western part of the SR 112 Corridor has primarily industrial and commercial land uses. East of I-880, residential land uses prevail in the area around SR 112 as well as several commercial businesses.

The San Leandro BART Station is identified as part of the larger Downtown San Leandro Priority Development Area (PDA) as defined by the Association of Bay Area Governments (ABAG). PDAs are locally-designated areas within existing communities that have been identified and approved by local cities or counties for future growth. These areas are typically more accessible to transit, jobs, shopping and other services. The San Leandro BART Station PDA contains plans for 3,400 residential units, 720,000 square feet of office space and 120,000 square feet of retail space.

The 2010 Census reported that San Leandro had a population of 84,950,³ and a growth rate of 6.9 percent since 2000.⁴ The age distribution of the population is shown in Table 2.

¹ San Leandro 2035 General Plan designates SR-112 as a local truck route.

² The Alameda County Goods Movement Plan designates SR-112 as a Tier 2 truck route.

³ 88,441 according to 2015 Calif Department of Finance

⁴ 11% growth rate according to 2035 San Leandro General Plan

Table 2. Population and Age Distribution of San Leandro

Age Group	Population	Percentage of Total
Under 18 years	18,975	22.3
18to 24 years	7,044	8.3
25 to 44 years	23,469	27.6
45 to 64 years	23,779	28.0
65 years and older	11,683	13.8
Total	84,950	100.0

Source: US Census, 2010.

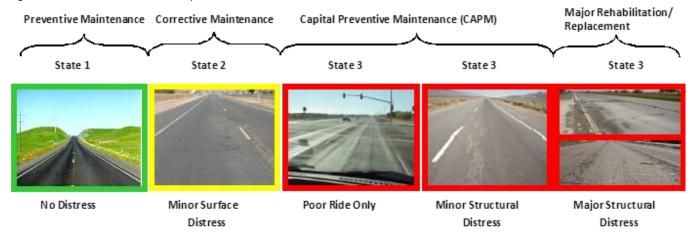
As of 2010: the median age was 39.3 years. The number of households was 30,717 and 34.2 percent had children under the age of 18. The average household size was 2.74 persons. Family size of three or more persons made up 66.8 percent of households. San Leandro's estimated 2009 median household income was \$58,346⁵, very close to California's median household income of \$58,931.

SYSTEM CHARACTERISTICS

SR 112 is approximately two miles in length, and is located in the City of San Leandro, Alameda County. It is functionally classified as a Principal Arterial. It is a conventional highway consisting of four lanes and runs from SR 61 to SR 185. SR 112 intersects with I-880 at PM 0.6. See Figure 1.

According to the 2015 pavement condition data, the pavement distress level of SR 112 can be described in two categories: Minor Surface Distress and Poor Ride/Bad Ride Only. (Figures 3 and 4)

Figure 3. Pavement Conditions Description



State 1: Good/excellent condition with few potholes or cracks ⇒ Preventive maintenance project

State 2: Fair condition with minor cracking or slab cracking

□ Corrective maintenance project

State 3: Poor condition with significant to extensive cracks or poor ride only ⇒ CAPM, rehabilitation or reconstruction project

 5 2014 median household income was \$63,400 according to the 2035 San Leandro General Plan.

Figure 4. Pavement Conditions, as of March 2015⁶



NON-MOTORIZED FACILITIES

The section of SR 112 from Timothy Drive to Alvarado Street is designated as a Class II bike lane. The City of San Leandro Bicycle and Pedestrian Master Plan (2010) proposed closing the gaps between SR 61 and Gilmore Drive, as well as, between Alvarado Street and SR 185.⁷ SR 112 is identified as an Alameda County/MTC Regional Bike route. In 2015, Caltrans completed an upgrade to the Davis Street interchange. The project included the following: replacing and raising the overcrossing to current standards, reconstruction of on and off ramps, as well as, providing sidewalks and bike lanes. The limits of the project was between Timothy Drive and Gilmore Drive. Figure 5 identifies the existing and proposed bicycle network (2010).

Sidewalks are located along the entire Corridor. There are opportunities to improve pedestrian access and circulation around three key areas in the Corridor. The San Leandro Bicycle and Pedestrian Plan (2010) defines a

⁶The map is based on the latest available pavement condition data from 2015, which does not reflect the completion of the Davis Street interchange reconstruction that addressed the poor/bad ride only conditions west of I-880 (2015). The limits of the project were from Timothy Drive (PM 0.45) to Gilmore Drive (PM 0.82).

⁷ The San Leandro Bicycle and Pedestrian Master Pan (2010) identified this location as a gap in the bicycle network. The plan does not set a construction timeframe.

Pedestrian Improvement Area (PIA) as an area where walkability is critical and should be improved. The PIAs include: Westgate Center, the downtown San Leandro BART Station, and the intersection of Beecher Street and SR 112. Figure 6 details these locations.

San Leandro Creek Trail Master Plan

Starting in the Oakland Hills, the San Leandro Creek flows westerly, passing through the cities of San Leandro and Oakland before draining into the San Leandro Bay. Within San Leandro, it runs generally parallel to and north of the SR 112 Corridor. In July 2014, the City of San Leandro was awarded a grant from Caltrans Partnership Planning for Sustainable Transportation Program. The grant is for the development of the San Leandro Creek Trail Master Plan design concepts, and implementation strategy for segments of a six-mile long multi-use trail with on-street options along San Leandro Creek through the cities of San Leandro and Oakland.

The San Leandro Creek Trail Master Plan Study will build on several years of partnerships and community outreach, and will analyze the trail corridor by engaging hundreds of diverse residents in envisioning how a greenway could enhance access to recreation, schools, and transit while promoting regional sustainability. The proposed greenway and creek restoration provides opportunities for residents in adjacent neighborhoods to access green space and recreational areas while also improving water quality, increasing habitat for native species, and protecting areas of historic, cultural, and ecological significance.

East Bay Greenway

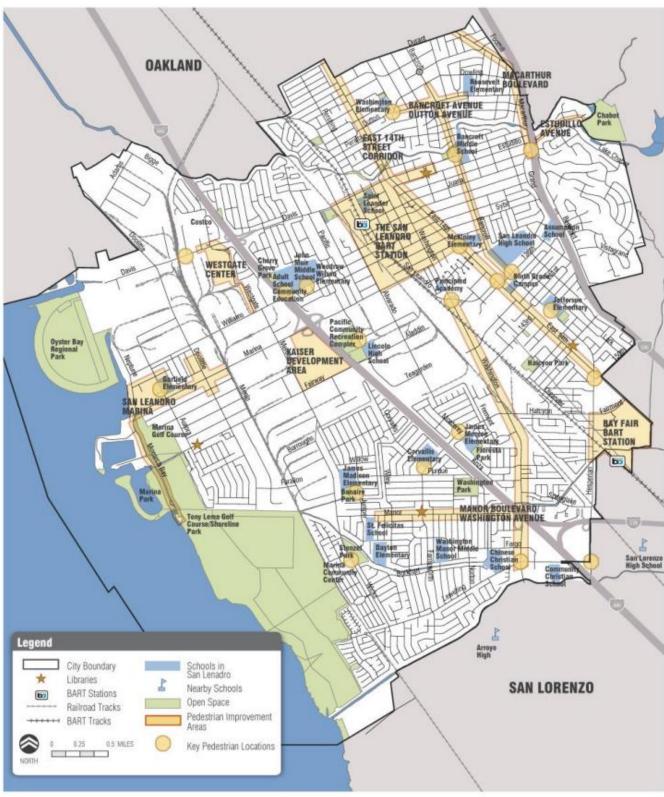
The East Bay Greenway is a planned 15-mile Class I bicycle and pedestrian pathway running roughly parallel to the BART tracks through Oakland, San Leandro and Hayward. It features a twelve-foot wide Class I bicycle and pedestrian trail, new traffic signals and crosswalks at 71st, 75th and 81st Avenues, as well as, new lighting and decorative fencing. The greenway crosses SR 112 near the San Leandro BART Station.



Figure 5. Existing & Proposed Bikeway Network

Source: San Leandro Bicycle and Pedestrian Master Plan 2010

Figure 6. Pedestrian Improvement Areas



Source: San Leandro Bicycle and Pedestrian Master Plan 2010

TRANSIT FACILITIES

The Alameda-Contra Costa Transit District (AC Transit) operates three bus routes on SR 112. The route numbers are 1, 89 and 801. Table 3 below details route performance in 2015. These routes serve the San Leandro BART Station located immediately to the south of SR 112, along San Leandro Boulevard. The routes are depicted in Figure 7. An AC Transit Bus Rapid Transit (BRT) Project is currently under construction along SR 185 from Oakland to San Leandro. The southern end of the route will then turn onto SR 112 and proceed westbound with two curbside stations (one curbside BRT station in the WB direction at Dan Niemi Way and one in the EB direction at Hayes Street, shown in green with arrows in Figure 8 on page 13), ending at the San Leandro BART Station. There will be no dedicated transit lanes in San Leandro. Construction is expected to complete by late 2017. The San Leandro Links Shuttle is a business supported shuttle that connects San Leandro BART with businesses in San Leandro ending at Thrasher Park. There are four stops (North Loop) along SR 112. The Capitol Corridor and Amtrak's Coast Starlight trains pass through the city sharing the Union Pacific (UP) right-of-way. The closest stations are at the Oakland Coliseum to the north and downtown Hayward to the south.

The majority of the bus stops along the Corridor have signage and shelters in place. Table 4 and Figure 8 identify bus stop locations where shelters do not exist currently.

Table 3. AC Transit Performance Statistics¹⁰

	AC Transit Route 1	AC Transit Route 89	AC Transit Route 801	
Ridership	4,135,230	371,589	193,614	
Frequency (min)	20-30	20-30	20-30	
Average Speed (mph)	12-15	12-15	12-15	

⁸ http://brt.actransit.org/wp-content/uploads/2013/07/EastBayBRT-FactSheet_English_92216.pdf

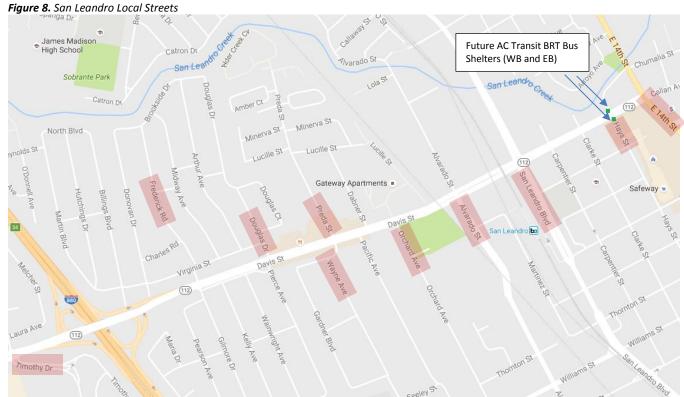
⁹ http://sanleandrolinks.com/wp-content/uploads/2014/08/San-Leandro-Links-Route-Map.pdf

¹⁰ http://www.alamedactc.org/files/managed/Document/19038/Appendix B ExistingMarketAnalysis.pdf



Table 4. New Bus Shelter Opportunities

Direction	Location
Eastbound	Timothy Drive
Eastbound	Wayne Drive
Eastbound/Westbound	Alvarado Street
Eastbound	San Leandro Boulevard
Eastbound/Westbound	Hays Street
Eastbound	East 14 th Street
Westbound	Orchard Avenue
Westbound	Preda Street
Westbound	Douglas Drive
Westbound	Fredrick Road



Source: Google Maps, with streets in discussion highlighted

FREIGHT FACILITIES

SR 112 is a local truck route through San Leandro connecting Oakland International Airport via SR 61 to warehousing facilities located along the SR 112 Corridor. The route's freight characteristic for trucks, from the Caltrans Office of Truck Services, is KPRA (Kingpin to Rear Axle) 40 feet. SR 112 is also identified as a Tier 2 truck route, a highest category for a non-freeway route, in the Alameda CTC's Countywide Goods Movement Plan. Freight traffic volumes are referenced in Table 5 (page 16). The warehousing locations are west of I-880. UP runs multiple freight trains daily on rail tracks that cross SR 112. There are two at-grade rail crossings at PM 1.44 & PM 1.46 respectively, plus the Jack D. Maltester/Mario Polvorosa overpass over the Coast Subdivision rail tracks at PM 0.17.

ENVIRONMENTAL CONSIDERATIONS

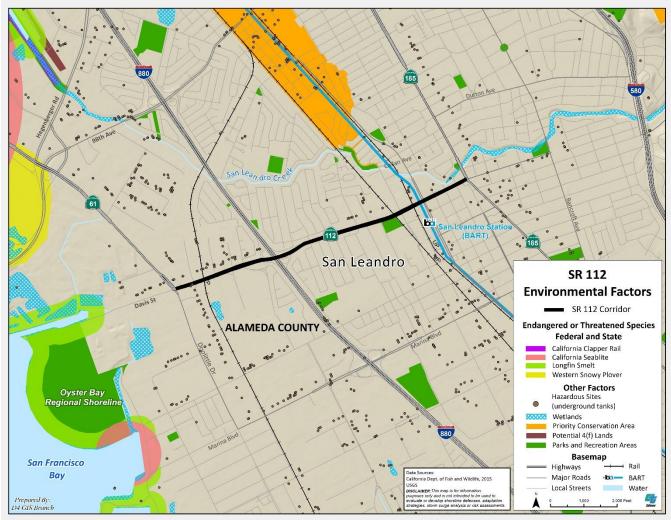
The purpose of the environmental scan is to conduct a high-level identification of potential environmental factors that may require future analysis in the project development process. This information may not represent all environmental considerations that exist within the Corridor vicinity. Caltrans supports reducing environmental impacts from the transportation system as an overall strategic objective. One of Caltrans sustainability objectives is to achieve an 80 percent reduction in greenhouse gas emissions below 1990 levels by 2050. A summary of the environmental factors included in this scan is displayed in Figure 9. It can be seen that SR 112 is located within the watershed of San Leandro Creek, and along parts of the creek are wetlands, and there are numerous underground storage tank locations along the Corridor. It should be noted that potential 4(f) lands include parks and recreational areas, publicly owned wildlife and waterfowl refuges and historic sites of national, state, or local significance¹¹. Not all parks and recreation areas are considered potential 4(f) lands. Priority Conservation Areas (PCAs), an ABAG designation, include open spaces that provide agricultural, natural resource, scenic, recreational,

¹¹ https://www.environment.fhwa.dot.gov/4f/4fpolicy.asp#part1

⁴ http://abag.ca.gov/priority/conservation/index.html

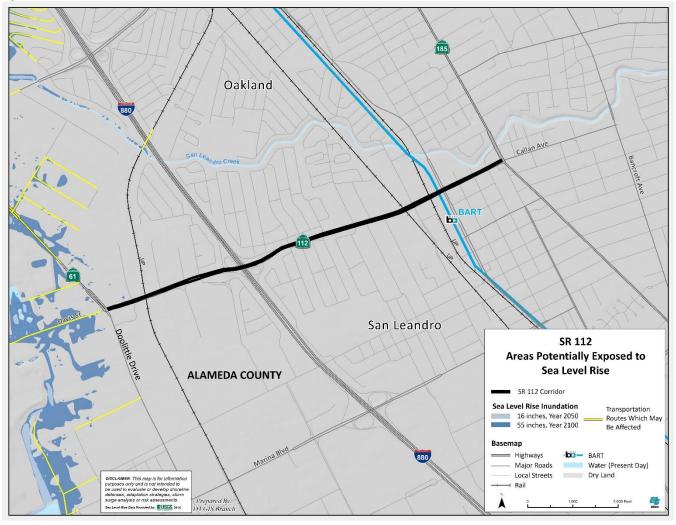
and/or ecological values and ecosystem functions and are identified through consensus by local jurisdictions and park/open space districts.

Figure 9. Environmental Factors



An area is subject to flooding due to sea level rise along and west of SR 61 (Doolittle Drive) by 2100. No flooding is projected by 2050. See Figure 10.

Figure 10. Sea Level Rise



CORRIDOR PERFORMANCE

The Annual Average Daily Traffic (AADT) reported in 2015 ranged from 22,900 to 54,000 vehicles and truck traffic volume ranged from almost two and a half percent to over ten percent of the AADT, depending on location. The AADT was collected at four locations (intersections of SR 61, I-880, San Leandro Blvd and SR 185) and the truck traffic count locations were at three locations (SR 61, I-880 and SR 185). The Alameda CTC Congestion Management Program Travel Demand Model (TDM) shows the majority of the traffic travels to and from I-880. It should be noted that since the TDM does not contain truck volume forecast, no 2040 truck data is provided in Table 5. Delay was common in the eastbound direction at the I-880 freeway entrance ramps during the AM peak period as reported in 2010. However, the Alameda County Congestion Management Program 2016 Level of Service (LOS) Monitoring Report indicates LOS E or better for all monitored segments along SR 112. While traffic demand may grow over time, adding roadway capacity may not solve the potential congestion issue and may exacerbate congestion at downstream locations such as I-880. Instead, this TCR recommends multimodal improvements to help achieve Caltrans sustainability goal.

Table 5. Traffic volumes and physical characteristics of SR 112

Traffic Volumes and Physical Characteristics			
Annual Average Daily Traffic 2015	22,900-54,000		
Annual Average Daily Traffic 2040	19,304-46,978		
Truck Traffic Volume 2015	550-2,974		
Truck Traffic as percentage of Annual Average Daily Traffic 2015	2.4-10.3%		
Lane Width (in feet)	12		
Shoulder Width (in feet)	2-8		
Sidewalk Present	Yes		

Source: 2015 data from Caltrans Traffic Census, 2040 data from Alameda CTC's travel demand model.

SHOPP STRATEGIES, PLANNED AND PROGRAMMED PROJECTS

In 2015, SB 486 was signed into law by Governor Brown, requiring Caltrans to develop and implement a robust *Asset Management Plan* by the end of 2020. The SHOPP, a four-year programming document updated every two years, is the primary means available to Caltrans to execute the Asset Management Plan. The SHOPP addresses the State's *fix-it-first* approach to the State Highway System. Caltrans also develops the Ten-Year SHOPP Plan to identify goal-based needs for the management, preservation and safety improvements of the SHS and to help inform the SHOPP Program. See Appendix A for the definition of the SHOPP Program and the Ten-Year SHOPP Plan. For future SHOPP cycles, priorities will be evaluated to match funding and the goals established in the Caltrans Strategic Management Plan, such as Safety, Sustainability, Livability, Economy and Performance. As projects are selected and developed, they will also address Complete Streets, the Americans with Disabilities Act (ADA), Sea Level Rise, and issues such as fish passages. The SHOPP is limited to maintenance, safety, and rehabilitation projects on existing State highways and bridges, with generally no projects that add new traffic capacity. There are no projects on SR 112 in the 2016 SHOPP or the 2015 Ten-Year Plan. Table 5 shows project recommendations that could be considered for future SHOPP cycles as well as other funding programs.

Table 6. Project Recommendations

Project	Description	Location (PM)	Source
САРМ	Pavement Rehab Project from west of I-880 to SR-185	0.81/1.78	TCR Recommendation
Lane Reconfiguration & Restriping	Intersection of SR 112/SR 61 Conversion of single right turn lane to a dual right.	R0.0	2035 San Leandro General Plan EIR
Pedestrian Improvements	Westgate Parkway pedestrian access, circulation, traffic controls ¹²	0.34	San Leandro Bike and Ped Master Plan 2010
Pedestrian Improvements	Improve the Pedestrian Crossing at the Intersection of Timothy Drive and Davis Street ¹³	0.41	San Leandro Bike and Ped Master Plan 2010
Pedestrian Improvements	Safety and Accessibility improvements at railroad crossings at Davis & Williams Street.	1.44 & 1.46	San Leandro Bike and Ped Master Plan 2010
Pedestrian Improvements	BART pedestrian access, circulation, traffic controls	1.47	TCR Recommendation
Pedestrian Improvements	Beecher Street pedestrian access, circulation, traffic controls	0.23	TCR Recommendation
Bicycle Improvement	Upgrade facility between SR 61 and Timothy Drive	0.0/0.45	TCR Recommendation
Transit Improvements	Add bus shelters at stop locations from Wayne Drive to SR 185	1.09/1.78	TCR Recommendation
Bicycle Improvement	Class II Bike Lane from Alvarado to San Leandro Boulevard	1.37/1.51	San Leandro Bike and Ped Master Plan 2010
Bicycle Improvement	Class II Bike Lane from San Leandro Boulevard to SR- 185 ¹⁴ .	1.51/1.78	San Leandro Bike and Ped Master Plan 2010
Bicycle Improvement	Consider Class IV bikeways where appropriate throughout the Corridor.	0.0/1.78	TCR Recommendation
ITS Technology	High level ITS infrastructure	Corridor- wide	2016 Alameda Countywide Multimodal Arterial Plan

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¹² The improvements recommended in the San Leandro Bike/Ped Master Plan are within the private shopping center parking area, not within the public right-of-way.

¹³ The San Leandro Bike/Ped Master Plan suggests a protected pedestrian refuge island or curb extension for the SE corner, although truck maneuverability would be impacted.

¹⁴ The San Leandro 2017 Bike and Ped Master Plan update may change this segment to a Class III Bike Route due to constrained right- ofway widths.

APPENDIX

APPENDIX A GLOSSARY OF TERMS AND ACRONYMS

Acronyms

AADT- Annual Average Daily Traffic

AADTT - Annual Average Daily Truck Traffic

AB - Assembly Bill

ABAG - Association of Bay Area Governments

ADA - Americans with Disabilities Act of 1990

ADT- Average Daily Traffic

Ala CTC – Alameda County Transportation Commission

ATP - Active Transportation Program

BAAQMD - Bay Area Air Quality Management District

BCDC - Bay Conservation and Development Commission

BRT - Bus Rapid Transit

BY- Base Year

Caltrans - California Department of Transportation

CARB - California Air Resources Board

C/CAG – City/County Association of Governments of San Mateo County

CCC - California Conservation Corps

CCTA – Contra Costa Transportation Authority

CEC - California Energy Commission

CESA - California Endangered Species Act

CFAC - California Freight Advisory Committee

CFMP - California Freight Mobility Plan

CMA- Congestion Management Agencies

CMAQ - Congestion Mitigation and Air Quality

CMP - Congestion Management Plan

CSFAP - California Sustainable Freight Action Plan

CSMP - Corridor System Management Plan

CEQA- California Environmental Quality Act

CSS - Context Sensitive Solutions

CTC – California Transportation Commission

CTP - California Transportation Plan

DD - Deputy Directive

DSMP – District System Management Plan

ECA – Essential Connectivity Areas

FAST Act - Fixing America's Surface Transportation Act

FASTLANE – Fostering Advancements in Shipping and Transportation for the Long-Term Achievement of National

Efficiencies grant program

FHWA – Federal Highway Administration

FSR - Feasibility Study Report

FSTIP- Federal Statewide Transportation Improvement Program

FTA – Federal Transit Administration

FTIP - Federal Transportation Improvement Program

GHG- Greenhouse Gas

GIS – Geographic Information System

HCP- Habitat Conservation Plan

HOT-High Occupancy Toll lane

HOV-High Occupancy Vehicle lane

HY- Horizon Year

ICM - Integrated Corridor Mobility

IGR-Intergovernmental Review

ITIP – Interregional Transportation Improvement Program

ITS – Intelligent Transportation System

ITSP – Interregional Transportation Strategic Plan

KPRA – Kingpin-to-Rear-Axle

LOS - Level of Service

MAP-21 – Moving Ahead for Progress in the 21st Century

MPO- Metropolitan Planning Organizations

MTC – Metropolitan Transportation Commission

NOA - Naturally Occurring Asbestos

NCCP- Natural Community Conservation Plan

NEPA- National Environmental Policy Act

NHS - National Highway System

NHFN – National Highway Freight Network

NMFN - National Multimodal Freight Network

NVTA - Napa Valley Transportation Authority

PAED – Project Approval/Environmental Document

PBA - Plan Bay Area

PCA - Priority Conservation Area

PDA - Priority Development Area

PFN – Primary Freight Network

PID-Project Initiation Document

PIR - Project Initiation Report

PM - Post Mile

PM 2.5 – Particulate Matter 2.5 micrometers or less in diameter

PM 10 - Particulate Matter 10 micrometers or less in diameter

PSR- Project Study Report

PR - Project Review

PTSF – Percent Time Spent Following

RHNA- Regional Housing Needs Allocation

RTP- Regional Transportation Plan

RTIP - Regional Transportation Improvement Program

RTPA- Regional Transportation Planning Agencies

SACOG – Sacramento Area Council of Governments

SAFETEA-LU - Safe, Accountable, Flexible and Efficient Transportation Equity Act, a Legacy for Users

SB - Senate Bill

SCS- Sustainable Community Strategies

SCTA – Sonoma County Transportation Authority

SFCTA – San Francisco County Transportation Authority

SHOPP- State Highway Operation Protection Program

SHS - State Highway System

SJCOG – San Joaquin Council of Governments

SMF - Smart Mobility Framework

SR - State Route

STA - Solano Transportation Authority

STIP – State Transportation Improvement Program

STP - Surface Transportation Program

STRAHNET - Strategic Highway Network

TAM – Transportation Authority of Marin

TCIF – Trade Corridors Improvement Fund

TCRP – Transit Cooperative Research Program

TEA-21 Transportation Equity Act for the 21st Century

TCR – Transportation Concept Report

TIGER – Transportation Investment Generating Economic Recovery

TDM – Transportation Demand Management

TMP – Transportation Management Plan

TMS – Transportation Management System

TSN- Transportation System Network

VMT - Vehicle Miles Traveled

VTA – Santa Clara Valley Transportation Authority

VPH - Vehicles per Hour

Definitions

AADT – Annual Average Daily Traffic is the total volume for the year divided by 365 days. The traffic count year is from October 1st through September 30th. Traffic counting is generally performed by electronic counting instruments moved from location throughout the state in a program of continuous traffic count sampling. The resulting counts are adjusted to an estimate of annual average daily traffic by compensating for seasonal influence, weekly variation and other variables which may be present. Annual ADT is necessary for presenting a statewide picture of traffic flow, evaluating traffic trends, computing accident rates, planning and designing highways and other purposes.

Base Year – The year that the most current data is available to the Districts

Bikeway Class I (Bike Path) – Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with cross flow by motorists minimized.

Bikeway Class II (Bike Lane) – Provides a striped lane for one-way bike travel on a street or highway.

Bikeway Class III (Bike Route) – Provides for shared use with pedestrian or motor vehicle traffic.

Bikeway Class IV (Separated Bikeway/Cycle Track) – Provides for exclusive use for bicycles by separating bikeway from motor vehicle traffic.

Bottlenecks – A bottleneck is a location where traffic demand exceeds the effective carrying capacity of the roadway. In most cases, the cause of a bottleneck relates to a sudden reduction in capacity, such as a lane drop, merging and weaving, driver distractions, a surge in demand, or a combination of factors.

Capacity – The maximum sustainable hourly flow rate at which persons or vehicles reasonably can be expected to traverse a point or a uniform section of a lane or roadway during a given time period under prevailing roadway, environmental, traffic, and control conditions.

Capital Facility Concept – The 20-25 year vision of future development on the route to the capital facility. The capital facility can include capacity increasing, State Highway, bicycle facility, pedestrian facility, transit facility (Intercity Passenger Rail, Mass Transit Guideway etc.), grade separation, and new managed lanes.

Conceptual Project—A conceptual improvement or action is a project that is needed to maintain mobility or serve multimodal users, but is not currently included in a fiscally constrained plan and is not currently programmed. It could be included in a General Plan or in the unconstrained section of a long-term plan.

Corridor – A broad geographical band that follows a general directional flow connecting major sources of trips that may contain a number of streets, highways, bicycle, pedestrian, and transit route alignments. Off system facilities are included as informational purposes and not analyzed in the TCR.

Facility Concept – Describe the Facility and strategies that may be needed within 20-25 years. This can include capacity increasing, State Highway, bicycle facility, pedestrian facility, transit facility, Non-capacity increasing operational improvements, new managed lanes, conversion of existing managed lanes to another managed lane type or characteristic, TMS field elements, Transportation Demand Management and Incident Management.

Facility Type – The facility type describes the State Highway facility type. The facility could be freeway, expressway, conventional, or one-way city street.

Freight Generator – Any facility, business, manufacturing plant, distribution center, industrial development, or other location (convergence of commodity and transportation system) that produces significant commodity flow, measured in tonnage, weight, carload, or truck volume.

Horizon Year – The year that the future (20-25 years) data is based on.

Intermodal Freight Facility – Intermodal transport requires more than one mode of transportation. An intermodal freight facility is a location where different transportation modes and networks connect and freight is transferred (or "transloaded") from one mode, such as rail, to another, such as truck.

ITS – Intelligent Transportation System improves transportation safety and mobility and enhances productivity through the integration of advanced communications technologies into the transportation infrastructure and in vehicles. Intelligent transportation systems encompass a broad range of wireless and wire line communications-based information and electronics technologies to collect information, process it, and take appropriate actions.

LOS – Level of Service is a qualitative measure describing operational conditions within a traffic stream and their perception by motorists. A LOS definition generally describes these conditions in terms of speed, travel time, freedom to maneuver, traffic interruption, comfort, and convenience. Six levels of LOS can generally be categorized as follows:



At **LOS A**, describes free flowing conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway.



At **LOS B**, is also indicative of free-flow conditions. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver.



At **LOS** C, represents a range in which the influence of traffic density on operations becomes marked. The ability to maneuver with the traffic stream is now clearly affected by the presence of other vehicles.



At **LOS D**, demonstrates a range in which the ability to maneuver is severely restricted because of the traffic congestion. Travel speed begins to be reduced as traffic volume increases.



At **LOS E**, reflects operations at or near capacity and is quite unstable. Because the limits of the level of service are approached, service disruptions cannot be damped or readily dissipated.



At **LOS F**, a stop and go, low speed conditions with little or poor maneuverability. Speed and traffic flow may drop to zero and considerable delays occur. For intersections, LOS F describes operations with delay in excess of 60 seconds per vehicle. This level, considered by most drivers unacceptable often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection.

Multi-modal – The availability of transportation options using different modes within a system or corridor, such as automobile, subway, bus, rail, or air.

System Operations and Management Concept – Describe the system operations and management elements that may be needed within 20-25 years. This can include Non-capacity increasing operational improvements (Aux. lanes, channelization's, turnouts, etc.), conversion of existing managed lanes to another managed lane type or characteristic (e.g. HOV land to HOT lane), TMS Field Elements, Transportation Demand Management, and Incident Management.

Peak Hour – The hour of the day in which the maximum volume occurs across a point on the highway.

Peak Hour Volume – The hourly volume during the highest hour traffic volume of the day traversing a point on a highway segment. It is generally between 6 percent and 10 percent of the ADT. The lower values are generally found on roadways with low volumes.

Planned Project— A planned improvement or action is a project in a fiscally constrained section of a long-term plan, such as an approved Regional or Metropolitan Transportation Plan (RTP or MTP), Capital Improvement Plan, or measure.

Post Mile – A post mile is an identified point on the State Highway System. The milepost values increase from the beginning of a route within a county to the next county line. The milepost values start over again at each county line. Milepost values usually increase from south to north or west to east depending upon the general direction the route follows within the state. The milepost at a given location will remain the same year after year. When a section of road is relocated, new milepost (usually noted by an alphabetical prefix such as "R" or "M") are established for it. If relocation results in a change in length, "milepost equations" are introduced at the end of each relocated portion so that mileposts on the reminder of the route within the county will remain unchanged.

Programmed Project—A programmed improvement or action is a project in a near-term programming document identifying funding amounts by year, such as the State Transportation Improvement Program or the State Highway Operations and Protection Program.

Route Designation —A route's designation is adopted through legislation and identifies what system the route is associated with on the State Highway System. A designation denotes what design standards should apply during project development and design. Typical designations include but not limited to National Highway System (NHS), Interregional Route System (IRRS), Scenic Highway System,

Rural – Fewer than 5,000 in population designates a rural area. Limits are based upon population density as determined by the U.S. Census Bureau

Segment – A portion of a facility between two points.

TDM – Transportation Demand Management programs designed to reduce or shift demand for transportation through various means, such as the use of public transportation, carpooling, telework, and alternative work hours. Transportation Demand Management strategies can be used to manage congestion during peak periods and mitigate environmental impacts.

TMS – Transportation Management System is the business processes and associated tools, field elements and communications systems that help maximize the productivity of the transportation system. TMS includes, but is not limited to, advanced operational hardware, software, communications systems and infrastructure, for integrated Advanced Transportation Management Systems and Information Systems, and for Electronic Toll Collection System.

Urban – 5,000 to 49,999 in population designates an urban area. Limits are based upon population density as determined by the U.S. Census Bureau.

Urbanized – Over 50,000 in population designates an urbanized area. Limits are based upon population density as determined by the U.S. Census Bureau.

VMT – Is the total number of miles traveled by motor vehicles on a road or highway segments.

APPENDIX B FEDERAL, STATE, AND REGIONAL PLANS AND POLICIES

FEDERAL

Fixing America's Surface Transportation Act (FAST Act) December, 2015

FAST Act will provide \$305 Billion in funding for surface transportation programs and was signed into law in December 2015. The federal spending bill replaces MAP-21, Moving Ahead for Progress in the 21st Century signed into law in 2012. FAST Act provides funding for highway, transit, and railroad networks, most of which will be distributed to state departments of transportation and local transit agencies.

Federal Transportation Improvement Program (FTIP)

All federally funded projects, and regionally significant projects (regardless of funding), must be listed in the FTIP per federal law. A project is not eligible to be programmed in the FTIP until it is programmed in the *State Transportation Improvement Program* (STIP) or in the *State Highway Operations and Protection Program* (SHOPP). Other types of funding (Federal Demonstration, Congestion Mitigation and Air Quality (CMAQ), Transportation Enhancement Activities (TEA), and Surface Transportation Program (STP) must be officially approved before the projects can be included in the FTIP.

STATE

California Transportation Plan (CTP) 2040

The CTP is a long-range policy framework to meet California's future multi-modal mobility needs and reduce greenhouse gas and particulate matter (PM) emissions. The CTP defines goals, performance-based policies, and strategies to achieve a collective vision for California's future Statewide, integrated, multimodal transportation system. A new updated plan was recently finalized in June 2016. It focuses on meeting new trends and challenges, such as economic and job growth, climate change, freight movement, and public health. In addition, performance measures and targets were developed to assess performance of the transportation system to meet the requirements of MAP-21.

California Interregional Blueprint (CIB)

Responding to Senate Bill 391 of 2009, CIB informs and enhances the State's transportation planning process. Similar to requirements for regional transportation plans under Senate Bill 375, SB 391 requires the State's long-range transportation plan to meet California's climate change goals under Assembly Bill 32. In response to these statutes, Caltrans is preparing a state-level transportation blueprint to inform CTP 2040 and articulate the State's vision for an integrated, multi-modal interregional transportation system that integrates the Regional Blueprint Program (see the Regional appendix section) and complements regional transportation plans. The CIB will integrate the State's long-range multi-modal plans and Caltrans-sponsored programs with the latest technology and tools to enhance our ability to plan for and manage a transportation system that will expand mode choices and meet future increases in transportation needs and still meet the GHG-reduction targets or SB 375.

State Transportation Improvement Program (STIP)

The STIP is a multi-year capital improvement program of transportation projects on and off the State Highway System, funded with revenues from the Transportation Investment Fund and other funding sources. Caltrans and the regional planning agencies prepare transportation improvement plans for submittal. Local agencies

work through their Regional Transportation Planning Agency (RTPA), County Transportation Commission, or Metropolitan Planning Organization (MPO), as appropriate, to nominate projects for inclusion in the STIP.

Interregional Transportation Improvement Program (ITIP)

The Interregional Transportation Improvement Program (ITIP) is a state-funding program for the Interregional Improvement Program (IIP) and is a sub-element of the State Transportation Improvement Program. The 2014 ITIP is a five year program of projects from fiscal years 2014-15 through 2018-19. The IIP is a state funding category created in SB 45 for intercity rail, interregional road or rail expansion projects outside urban areas, or projects of statewide significance, which include projects to improve State highways, the intercity passenger rail system, and the interregional movement of people, vehicles, and goods. Caltrans nominates and the California Transportation Commission approves a listing of interregional highway and rail projects for 25% of the funds to be programmed in the STIP (the other 75% are Regional Improvement Program funds). Only projects planned on State highways are to be included in this program.

Interregional Transportation Strategic Plan (ITSP) 2015

The ITSP is a California Department of Transportation (Caltrans) document that provides guidance for the identification and prioritization of interregional State highway projects. The ITSP promotes the State of California's role of improving mobility while providing opportunity for efficient goods movement. It also provides summary information regarding other interregional transportation modes—in particular, intercity passenger rail. The ITSP highlights critical planning considerations such as system planning, complete streets, and climate change.

District System Management Plan (DSMP)

The DSMP provides a vehicle for the development of multi-modal and multi-jurisdictional transportation strategies. These strategies must be based on an analysis that is developed in partnership with regional and local agencies. The DSMP is the State's counterpart to the Regional Transportation Plan (RTP) for the region. The former Transportation System Development Program (TSDP) is now incorporated within this management plan as a Project List.

State Highway Operation and Protection Program (SHOPP)

Caltrans prepares the SHOPP for the expenditure of transportation funds for major capital improvements necessary to preserve and protect the State Highway System. The SHOPP is a four-year funding program, focusing available resources on the most critical categories of projects: safety mandates, bridge, and pavement preservation. The 10-Year SHOPP anticipates long-term projected expansion and maintenance needs.

10-Year SHOPP

The 10-year SHOPP is a state plan for the rehabilitation and reconstruction, or both, of state highways and bridges by the SHOPP. The purpose of the plan is to identify needs for the upcoming 10 years. The plan is updated every two years. It includes specific milestones, quantifiable accomplishments and strategies to control cost and improve the efficiency of the program. 10-year SHOPP differs from SHOPP, as it has no funding constraints assigned.

Senate Bill 45 (SB 45)

SB 45 (1997) establishes guidelines for the California Transportation Commission to administer the allocation of funds appropriated from the Public Transportation Account for capital transportation projects designed to improve transportation facilities.

California Strategic Growth Plan

The Governor and Legislature have initiated the first phase of a comprehensive Strategic Growth Plan to address California's critical infrastructure needs over the next 20 years. California faces over \$500 billion in infrastructure needs to meet the demands of a population expected to increase by 23 percent over the next

two decades. In November 2006, the voters approved the first installment of that 20-year vision to rebuild California by authorizing a series of general obligation bonds totaling \$42.7 billion.

Smart Mobility Framework

Caltrans released *Smart Mobility 2010: A Call to Action for the New Decade* in February 2010. SMF was prepared in partnership with US Environmental Protection Agency, the Governor's Office of Planning and Research, and the California Department of Housing and Community Development to address both long-range challenges and short-term pragmatic actions to implement multi-modal and sustainable transportation strategies in California.

Smart Mobility 2010 provides new tools and techniques to improve planning. It links land use "place types," considers growth scenarios and how growth will best gain the benefits of smart mobility. The SMF emphasizes travel choices, healthy, livable communities, reliable travel times for people and freight, and safety for all users. This vision supports the goals of social equity, climate change intervention, and energy security as well as a robust and sustainable economy.

<u>Caltrans Deputy Directive 64-R2</u> _Complete Streets - Integrating the Transportation System, 2008 & 2014

This Deputy Directive expresses Caltrans commitment to provide for the needs of all travelers including pedestrians, bicyclists and persons with disabilities in all programming, planning, maintenance, construction, operations, and project development activities and products.

State Assembly Bill 32 (AB 32) Global Warming Solutions Act, September 2006

This bill requires the State's greenhouse gas emissions to be reduced to 1990 levels by the year 2020. Caltrans' strategy to reduce global warming emissions has two elements. The first is to make transportation systems more efficient through operational improvements. The second is to integrate emission reduction measures into the planning, development, operations and maintenance of transportation elements.

Senate Bill 375 (SB 375) Addressing Greenhouse Gas Emissions from the Transportation Sector

SB 375 provides a means for achieving AB 32 goals from cars and light trucks. The transportation sector contributes over 40 percent of the GHGs throughout the state. Automobiles and light trucks alone contribute almost 30 percent. SB-375 requires the California Air Resources Board (ARB) to develop regional greenhouse gas (GHG) emission reduction targets for cars and light trucks for each of the 18 Metropolitan Planning Organizations (MPOs). Through their planning processes, each of the MPOs is required to develop plans to meet their regional GHG reduction target. This would be accomplished through either the financially constrained "sustainable communities strategy" as part of their regional transportation plan (RTP) or an unconstrained alternative planning strategy. SB-375 also provides streamlining of California Environmental Quality Act (CEQA) requirements for specific residential and mixed-use developments.

Senate Bill 391 (SB 391) California Transportation Plan updates, 2009

This bill requires the department to update the California Transportation Plan by December 31, 2015, and every 5 years thereafter. The bill requires the plan to address how the state will achieve maximum feasible emissions reductions in order to attain a statewide reduction of greenhouse gas emissions to 1990 levels by 2020 and 80% below 1990 levels by 2050. The bill requires the plan to identify the statewide integrated multimodal transportation system needed to achieve these results.

Senate Bill 743 (SB 743) California Environmental Quality Act (CEQA) updates, 2013

This bill requires the Office of Planning and Research to update guidelines for analyzing transportation project impacts as they relate to CEQA legislation. Vehicle Miles Traveled (VMT) now provides an alternative to LOS for evaluating transportation impacts. Particularly within areas served by transit, those alternative criteria must "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses."

Caltrans - Climate Action Plan

Greenhouse gas (GHG) emissions and the related subject of global climate change are emerging as critical issues for the transportation community. Caltrans recognizes the significance of cleaner, more energy efficient transportation. On June 1, 2005 the State established climate change emissions reduction targets for California that lead to development of the Climate Action Program. This program highlights reducing congestion and improving efficiency of transportation systems through smart land use, operational improvements, and Intelligent Transportation Systems (objectives of the State's Strategic Growth Plan). The Climate Action Plan approach also includes institutionalizing energy efficiency and GHG emission reduction measures and technology into planning, project development, operations, and maintenance of transportation facilities, fleets, buildings, and equipment.

Corridor System Management Plans (CSMP)

In 2007, the California Transportation Commission adopted a resolution stating "...the Commission expects Caltrans and regional agencies to preserve the mobility gains of urban corridor capacity improvements over time that will be described in Corridor System Management Plans (CSMPs)." A CSMP is a transportation planning document that will study the facility based on comprehensive performance assessments and evaluations. The strategies are phased, and include both operational and more traditional long-range capital expansion strategies. They take into account transit usage, projections, and interactions with arterial network, and connection to State Highways. Each CSMP presents an analysis of existing and future traffic conditions and proposes traffic management strategies and capital improvements to maintain and enhance mobility within each corridor.

California Freight Mobility Plan Final, Dec. 2014

The California State Transportation Agency (CalSTA) and Caltrans developed a state freight plan, titled the California Freight Mobility Plan (CFMP). Per Assembly Bill 14 (Lowenthal, 2013) the CFMP is a comprehensive plan that governs the immediate and long-range planning activities and capital investments of the state with respect to the movement of freight. The CFMP will also comply with the relevant provisions of the federal Moving Ahead for Progress in the 21st Century Act (MAP-21) which encourages each state to develop a freight plan. The *CFMP* is a modal plan contributing to the Department's ongoing *California Interregional Blueprint (CIB)* initiative. The plan will also incorporate information from the Freight Element of the *California State Rail Plan*. It will use recent freight industry information developed by seaports, railroads, airports, and others, as well as benefit from important regional freight mobility planning programs by partner agencies.

California State Rail Plan (CSRP), 2013

The California State Rail Plan is a plan for passenger and freight rail to address environmental, economic development, and population growth challenges such as increased travel demand, traffic congestion, and Greenhouse Gas emissions. CSRP programs additional funding for capital investments, operations, and maintenance. The plan provides a framework for improving the State's rail system, noting improvements, future needs, and plans for expansion/integration of rail services.

REGIONAL

Regional Transportation Plan (RTP) "Plan Bay Area"

Plan Bay Area is a long-range integrated transportation and land-use/housing strategy through 2040 for the San Francisco Bay Area. On July 18, 2013, the Plan was jointly approved by the Association of Bay Area Governments (ABAG) Executive Board and by the Metropolitan Transportation Commission (MTC). The Plan includes the region's Sustainable Communities Strategy and the 2040 Regional Transportation Plan represents the next iteration of a planning process that has been in place for decades.

Plan Bay Area marks the nine-county region's first long-range plan to meet the requirements of California's landmark 2008 Senate Bill 375, which calls on each of the state's 18 metropolitan areas to develop a Sustainable Communities Strategy to accommodate future population growth and reduce greenhouse gas emissions from cars and light trucks. Working in collaboration with cities and counties, the Plan advances initiatives to expand housing and transportation choices, create healthier communities, and build a stronger regional economy.

Regional Transportation Improvement Program (RTIP)

The Regional Transportation Improvement Program is a sub-element of the State Transportation Improvement Program (STIP). The Metropolitan Transportation Commission is responsible for developing regional project priorities for the RTIP for the nine counties of the Bay Area. The biennial RTIP is then submitted to the California Transportation Commission for inclusion in the STIP.

Regional Blueprint Planning Program

The Regional Blueprint Planning Program supports the smart growth element of the Strategic Growth Plan by promoting smart land use choices at the regional and local levels. The Regional Blueprint Planning Program was a grant program that supported Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Agencies (RTPAs) to conduct comprehensive scenario planning. Using consensus-building and a broad-based visioning approach it's goal was to envision future land use patterns and their potential impacts on a region's transportation system, housing supply, jobs/housing balance, resource management and other protections. The Blueprint planning effort in the San Francisco Bay Area is the Focus our Vision (FOCUS) program, which is led by the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) with support from the Bay Area Air Quality Management District (BAAQMD) the Bay Conservation and Development Commission (BCDC), and Caltrans. These agencies and local governments participated in the Regional Blueprint Planning Program since the program's inception in 2005, receiving grants for all four years, and now carry on regional blueprint goals through the FOCUS program.

Freeway Performance Initiative (FPI)

This is the Metropolitan Transportation Commission's ongoing effort to improve the operations, safety, and management of the Bay Area's freeway network by deploying system management strategies, completing the HOV lane system, addressing regional freight issues, and closing key freeway infrastructure gaps.

APPENDIX C RESOURCES

https://www.sanleandro.org/civicax/filebank/blobdload.aspx?blobid=6652

http://www.alamedactc.org/app pages/view/8079

http://www.dot.ca.gov/trafficops/census/

http://planbayarea.org/the-plan/quick-facts/faq.html

HTTP://WWW.ALAMEDACTC.ORG/FILES/MANAGED/DOCUMENT/19038/APPENDIX B EXISTINGMARKETANALYS IS.PDF